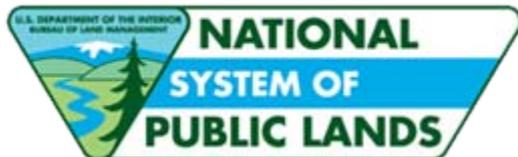


# *The Geothermal Leasing PEIS* A User's Guide

April, May and June 2009

Workshops Across the West



# Four steps of geothermal development

1. Exploration
2. Drilling
3. Utilization and production
4. Reclamation and abandonment

A lease is need prior to conducting steps 2 -4



# Why is federal action needed?



## Respond to requirements of the Energy Policy Act 2005 & Executive Order 13212

1. Reduce 90% of backlogged leases that existed prior to Jan 1, 2005
2. Improve the effectiveness of geothermal leasing in the 12 Western US, including Alaska

# What is the purpose of the federal action?

- To complete the processing of active pending geothermal lease applications and nominations.
- To amend BLM land use plans to allocate BLM-administered lands with geothermal resource potential as closed, open, or open with major or moderate constraints to geothermal leasing.

# What is the purpose of the federal action? *(continued)*

- To provide information to the Forest Service (FS) to facilitate its subsequent consent decision to the BLM for leasing on National Forest System (NFS) lands, and to provide environmental analysis to assist future NFS land use decisions by providing possible land use allocations and stipulations for geothermal leasing.

# Geothermal Leasing PEIS

1. Record of Decision (ROD) signed December 2008
2. Scope: 12 Western States and over 142 million acres BLM public land and 103 million acres of NFS land
3. Expedited process: 18 months from Notice of Intent (NOI) to ROD
4. Amended 114 BLM land use plans
5. Assessed 19 lease applications

# Geothermal ROD - BLM

- The ROD allows the BLM to make future decisions on whether or not to issue geothermal leases in conformance with the amended land use plan on the basis of the analysis in the Programmatic Environmental Impact Statement (PEIS).

# Geothermal ROD – BLM

## *Continued*

- It is the intent of the BLM that, upon receipt of future nominations or applications for leases, affected BLM offices would be able to conduct a Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA) evaluation to make lease sale decisions without further plan amendments or NEPA analysis, unless new information or special circumstances require additional environmental evaluation.

# Geothermal ROD – BLM

## *Continued*

- Prior to issuing leases, the BLM and FS would conduct additional environmental reviews, as appropriate, to comply with other laws, including but not limited to the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA).

# Geothermal ROD – BLM

## *Continued*

- In addition, prior to making a leasing decision on lands in proximity to a National Park System unit, the BLM or other surface management agency must determine if there would be any impacts to thermal or hydrological features within the unit, in accordance with the Geothermal Steam Act Amendments (30 USC Section 1026).

# Forest Service Plans

The ROD does not amend FS Plans, however, the PEIS provides information to the FS to facilitate its subsequent consent decision to the BLM for leasing on NFS lands, and provides environmental analysis to assist future NFS land use decisions by providing possible land use allocations and stipulations for geothermal leasing.

# Scope: RFD Scenario and Location

RFD = Reasonably Foreseeable Development

## 1. Electrical Generation (indirect use)

- 3,000 MW in US
- 5,500 MW from 110 plants by 2015
- An additional 6,600 MW from 132 plants by 2025

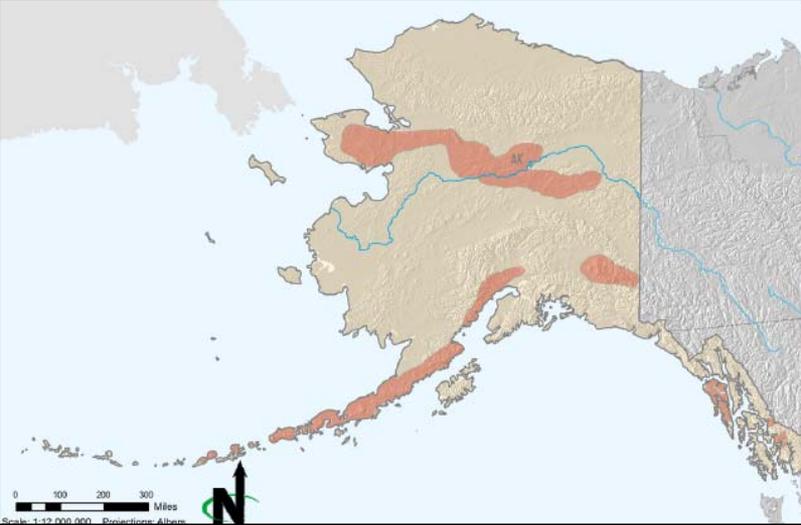
## 2. Direct Use

- RFD: Over 270 communities near geothermal resources

# Estimated Commercial Development

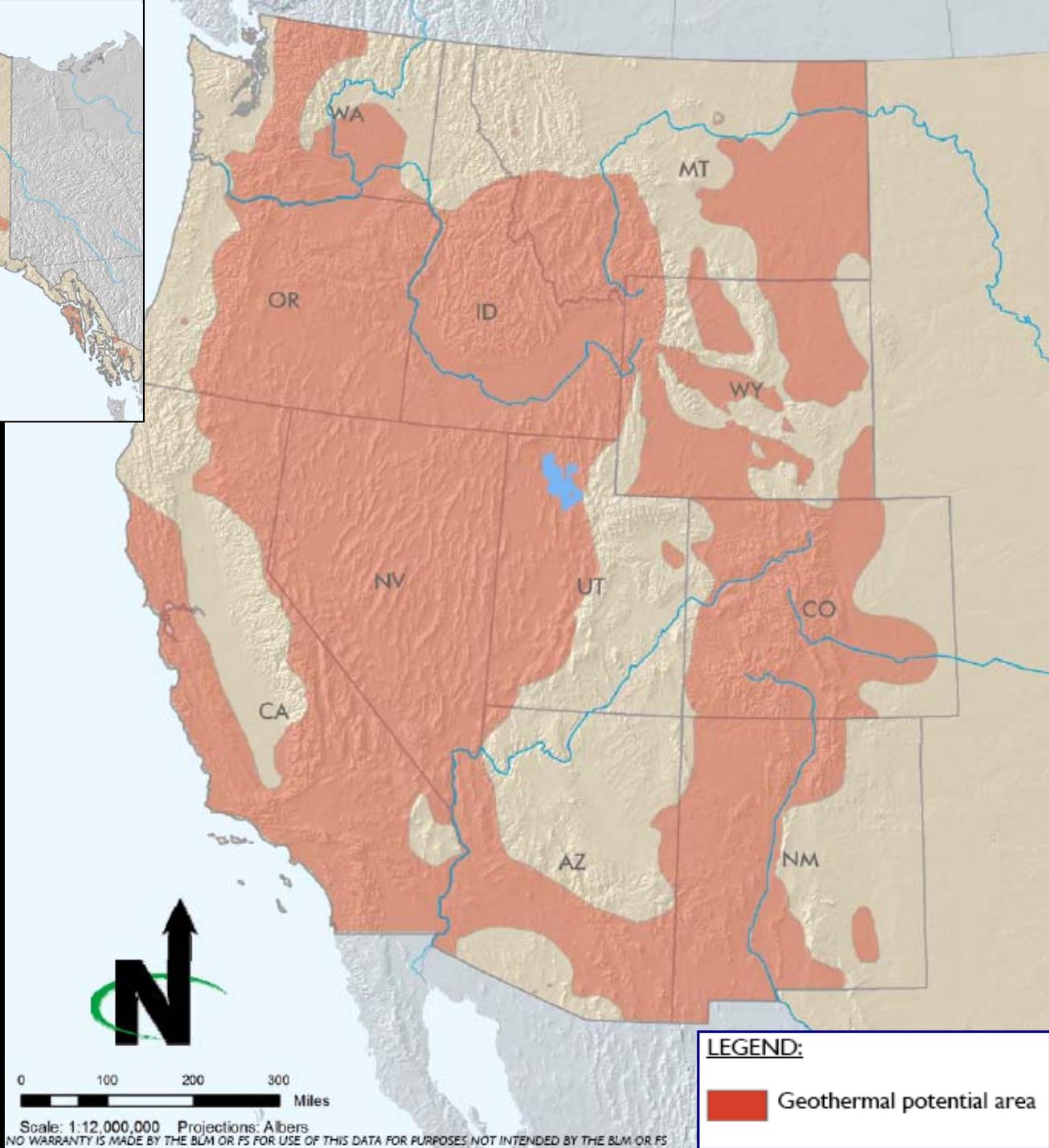


State	2015 (MW)	2025 (MW)
California	2375	4703
Nevada	1473	2880
Idaho	855	1670
Oregon	380	1250
Utah	230	620
Washington	50	600
New Mexico	80	170
Alaska	20	150
Arizona	20	50
Colorado	20	50
Montana	20	50
Wyoming	20	50



# Planning Area

Geothermal  
Potential Area =  
530 million acres



**LEGEND:**

 Geothermal potential area

# Collaborative Partners for the Geothermal Potential Area Map



## Federal Agencies

- Marshall Reid, US Geological Survey
- Colin Williams, US Geological Survey
- Joe Moore, US DOE and Energy & Geoscience Institute, Univ. of Utah
- Joel Renner, Idaho National Laboratory (INL)

## State Governments

- State of Colorado
- State of Nevada
- State of Utah
- State of Alaska
- State of California
- State of Idaho
- State of Oregon
- State of Washington
- State of Arizona
- State of New Mexico

## State Governments (*Continued*)

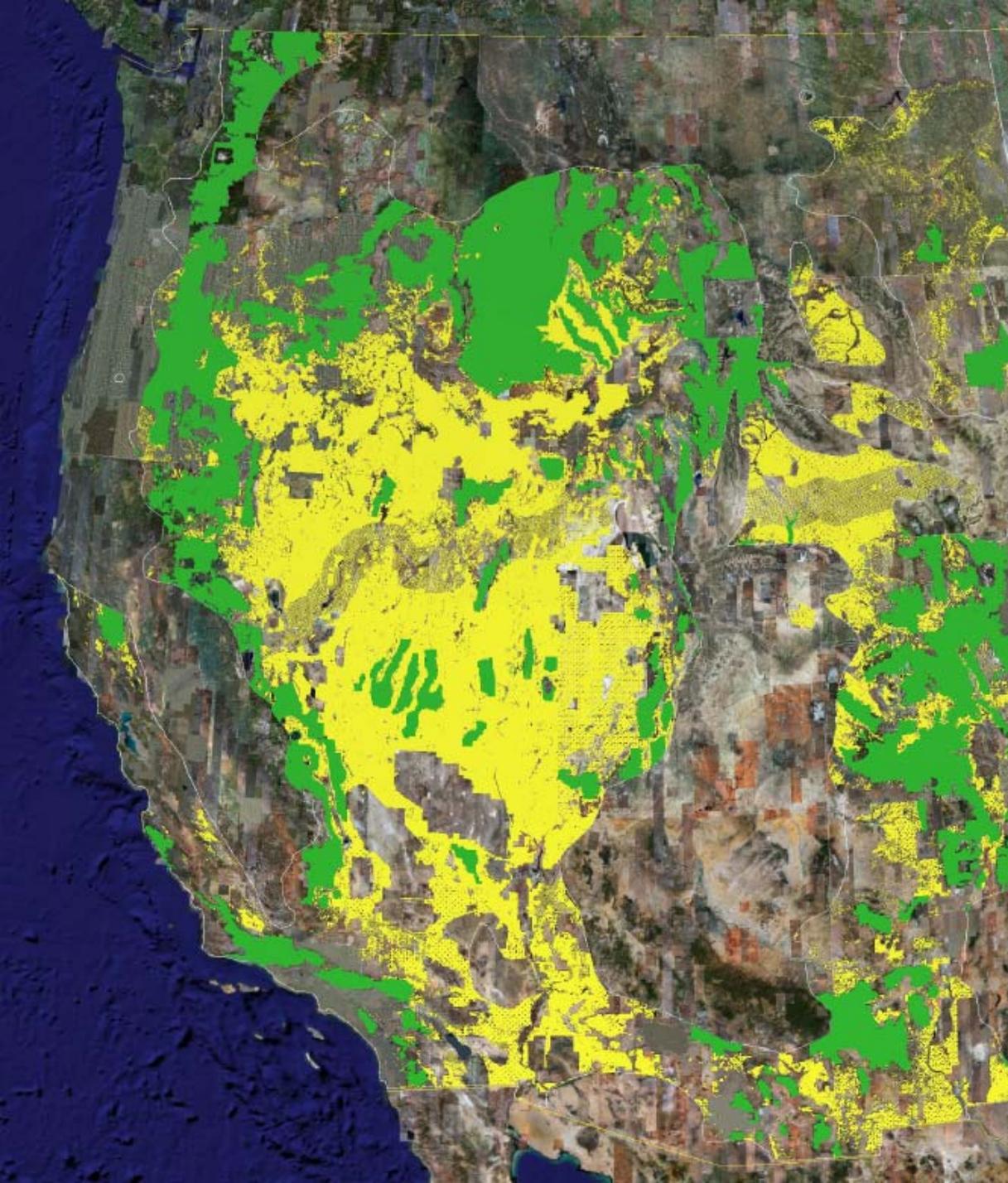
- State of Wyoming
- State of Montana

## Research Institutes

- Great Basin Center for Geothermal Energy, University of Nevada, Reno
- GeoHeat Center, Oregon Institute of Technology
- Energy and Geoscience Institute, University of Utah
- Intermountain West Geothermal Consortium
- Geothermal Laboratory, Southern Methodist University

## Private Industry

- Ormat Technologies, Inc.
- Enel North America, Inc.
- Calpine Corporation
- US Geothermal

An aerial photograph of a large land area, likely in the western United States, showing a mix of terrain including mountains, valleys, and agricultural fields. The map is overlaid with two colors: a large central area is highlighted in yellow, and several smaller, irregularly shaped areas are highlighted in green. The yellow area covers most of the central and eastern parts of the land shown, while the green areas are scattered, particularly in the western and northern parts. The ocean is visible on the left side of the image.

# Decision Area

## 248M Acres

### BLM Public Land

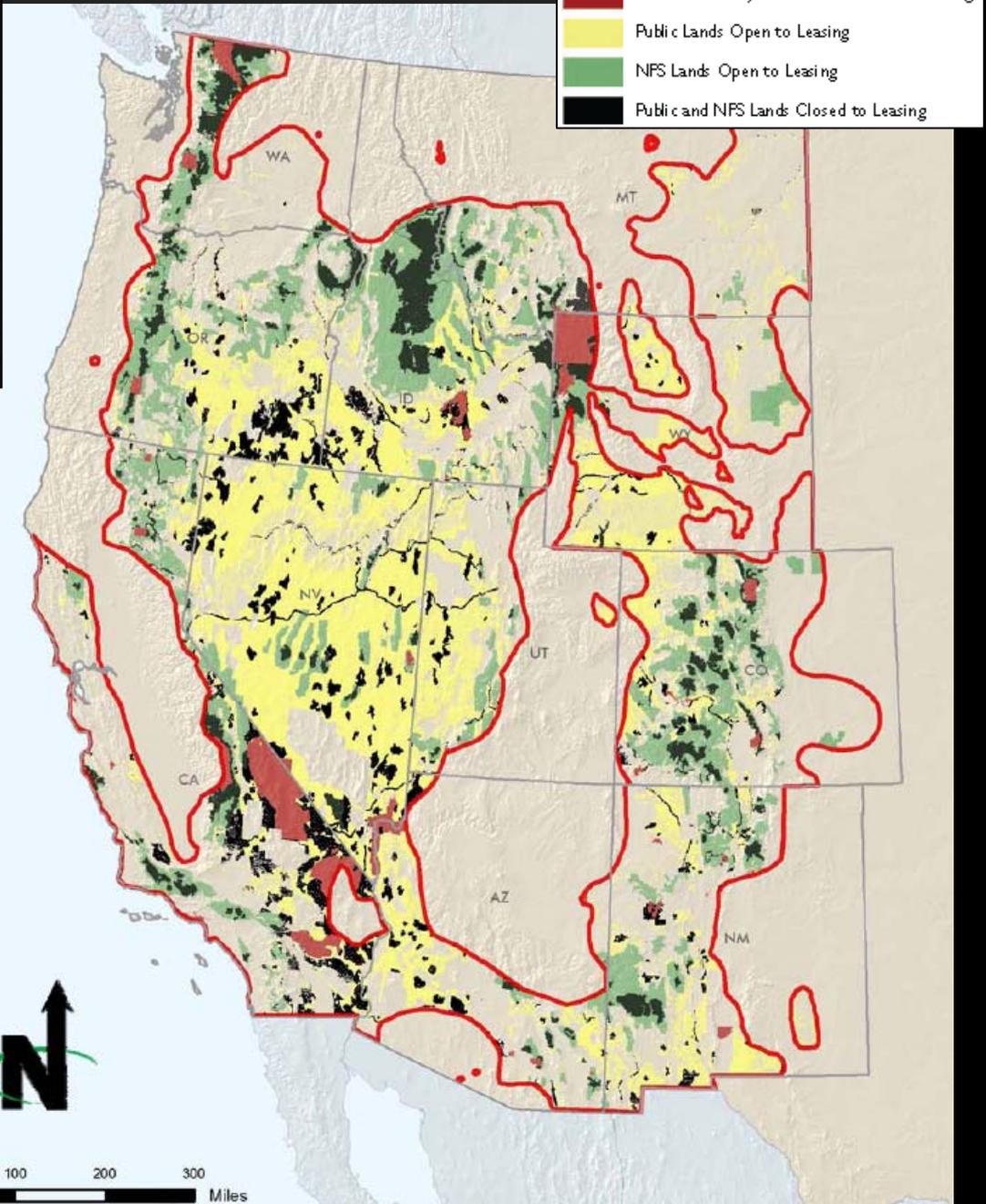
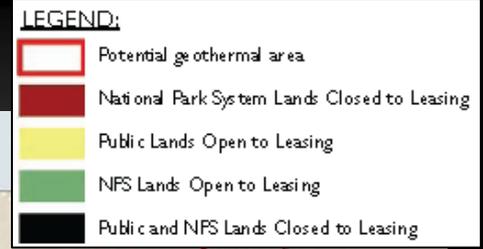
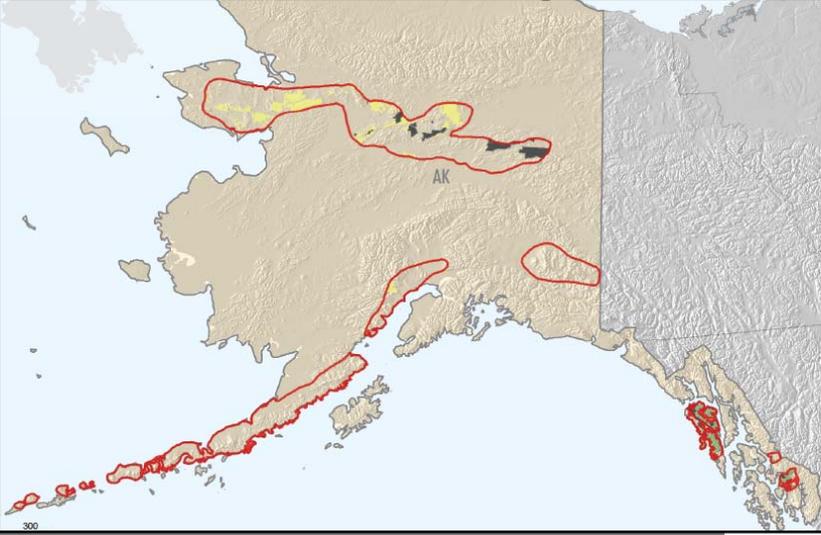
- 142M Acres
- Administered by 103 Field Offices

### NFS Land

- 103M Acres
- 68 Nat'l. Forests
- >250 Ranger Dists

# Proposed Action

1. Identify and analyze the effects of public and NFS lands with geothermal potential as being opened or closed to leasing;
2. Develop a comprehensive list of stipulations, best management practices, and procedures to serve as consistent guidance for future geothermal leasing and development;
3. Amend BLM Resource Management Plans (RMPs) to adopt the land use allocations and list of stipulations, BMPs, and procedures; and
4. Make decisions to issue or deny geothermal lease applications on BLM and NFS lands pending as of January 1, 2005.



**Proposed Action**

*Open to Leasing (77%)*

**BLM: 111M acres**

**NFS: 79M acres**

*Closed to Leasing*

**BLM: 25M acres**

**NFS: 24M acres**



# Allocations

- Non-discretionary Closed Lands
  - National Park Service lands
  - National Monuments
  - National Conservation Areas and similar designations (*exception*-King Range and Steese NCAs)
  - Wilderness and National Wilderness Areas
  - Wilderness Study Areas
  - Lands identified under Executive Communication 1504, Ninety-Sixth Congress (House Document 96-119)

# Allocations *Continued*

- Non-discretionary Closed Lands
  - National Recreation Areas
  - Designated Wild Rivers under WSRA
  - The Island Park Geothermal Area
  - Withdrawn lands under Section 17(d)(1) of the Alaska Native Claims Settlement Act
  - Valles Caldera National Preserve, New Mexico

# Allocations *Continued*

- Administratively Closed Lands
  - The California Desert Conservation Area
  - ACECs, where geothermal leasing is incompatible with purpose of designation (for existing list, see Appendix C of PEIS)
  - Lands within the National Landscape Conservation System (e.g. National Historic and Scenic Trails)

# Allocations *Continued*

- Administratively Closed Lands
  - National Landmarks and Research Natural Areas
  - Military Reservations encompassing public lands are OPEN, except where geothermal development conflicts with mission
  - Areas previously closed to fluid minerals development in approved land use plans.

# Stipulations and BMPs

- Stipulations: Specific conditions to protect environmental values.
  - Stipulations developed from review of land use plans and from existing geothermal and oil and gas stipulations
  - Types: No Surface Occupancy (NSO) / Controlled Surface Use (CSU) / Timing Limitations (TL) / resource specific
  - Applied only if no other protection measures are available

# The Art of Stipulations



# Stipulations and BMPs

- No Surface Occupancy  
Considered a major constraint and are appropriate when the standard lease stipulations and BMPs are insufficient
  - Designated or proposed critical habitat for listed species under the Endangered Species Act (ESA)
  - Properties designated or eligible for the National Register of Historic Places
  - Areas with important cultural and archeological resources
  - Water bodies, riparian areas, wetlands and 100-year floodplains

# Stipulations and BMPs

- No Surface Occupancy *(Continued)*
  - Recreation and special use areas
  - Designated and eligible segments of Wild and Scenic Rivers
  - Designated important viewsheds (Visual Resource Management Class I)
  - Slopes in excess of 40% and/or high erosion potential
  - Areas with special resource values for subsistence needs in Alaska

# Stipulations and BMPs

## Timing Limitations and Controlled Surface Use

Timing limitations contain language to be general enough that field offices would have the capability to add site specific stipulations from existing plans or NEPA that fit in the general categories of the PEIS

- Protection of riparian and wetland habitat
- Protection of visual resources

# Stipulations and BMPs

## Timing Limitations and Controlled Surface Use *Continued*

- Protection of recreational areas
- Compatibility with urban interface
- Protection of erosive soils and soils on slopes greater than 30 percent
- Protection of important habitat and migration corridors

# Stipulations and BMPs

## Other Lease Stipulations

- Protection of Geothermal Features of National Parks
  - Significant thermal features (e.g. Yellowstone National Park)
- Endangered Species Act Stipulation
  - In accordance with BLM IM 2002-174
- Sensitive Species Stipulation
  - Agency designated sensitive species (e.g. Sage Grouse)

# Stipulations and BMPs

- Other Lease Stipulations *Continued*
  - Cultural Resources Stipulation
    - In accordance with BLM IM 2005-003
  - Roadless Area Stipulation
    - Issuance of a non-discretionary restriction on any leases within NFS inventoried roadless areas.
    - No new road construction or reconstruction would be allowed in designated roadless areas.
    - If legislation change roadless area designation, the restriction will be revised.

# Stipulations and BMPs

BMPs: Best Management Practices are standards implemented to effectively accomplish a desired outcome

- Developed from comprehensive review of LUP and from existing geothermal and oil and gas guidance
- Provided BMPs for all four phases of geothermal development (exploration, drilling, utilization, and reclamation)
- Applied as part of permits for post leasing development

# Management Procedures for Geothermal Leasing

- Prior to land being included in a geothermal lease sale, the BLM will:
  - Assess the land for the presence of identified species, habitat, or other sensitive resources, consult with local tribes, collaborate with state and local agencies, collaborate with the National Park Service, assess the adequacy of existing NEPA documentation and conformance with existing land use plans
  - Coordinate with the FS and the FS will provide a consent determination

A proponent comes into a BLM or Forest Service office with a lease application:

WHAT DOES the BLM or FS DO?

1. Look at maps and allocations
2. Identify Stipulations
3. Document NEPA adequacy
4. Coordinate and Consult

# GIS Availability

The GIS data and maps used in the analysis are available at:

[www.blm.gov/geothermal\\_eis](http://www.blm.gov/geothermal_eis)

- Data is dynamic
- Check with local BLM Field Offices or Forests for updated data

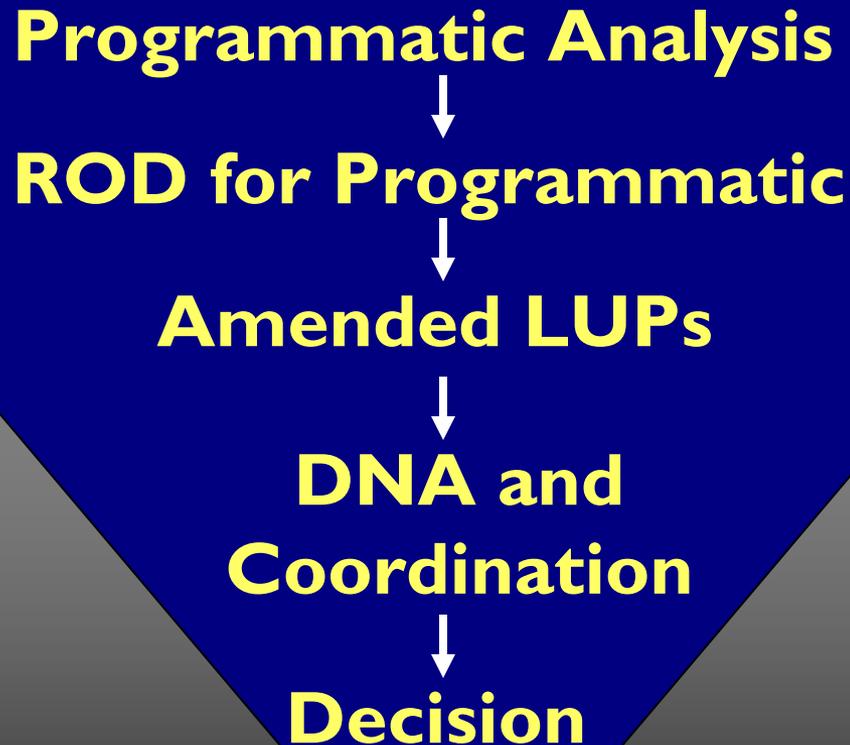
Useful resource:

[www.geocommunicator.gov](http://www.geocommunicator.gov)



# BLM Plan Amendment Approach

# Approach for integrating implementation actions



# BLM Plan Amendments

Two Types of Amendments:

- Plans that have been completed.
- Plans that are currently under revision.

# BLM Plan Amendments

The ROD amends LUPs/RMPs that did not adequately address geothermal leasing by:

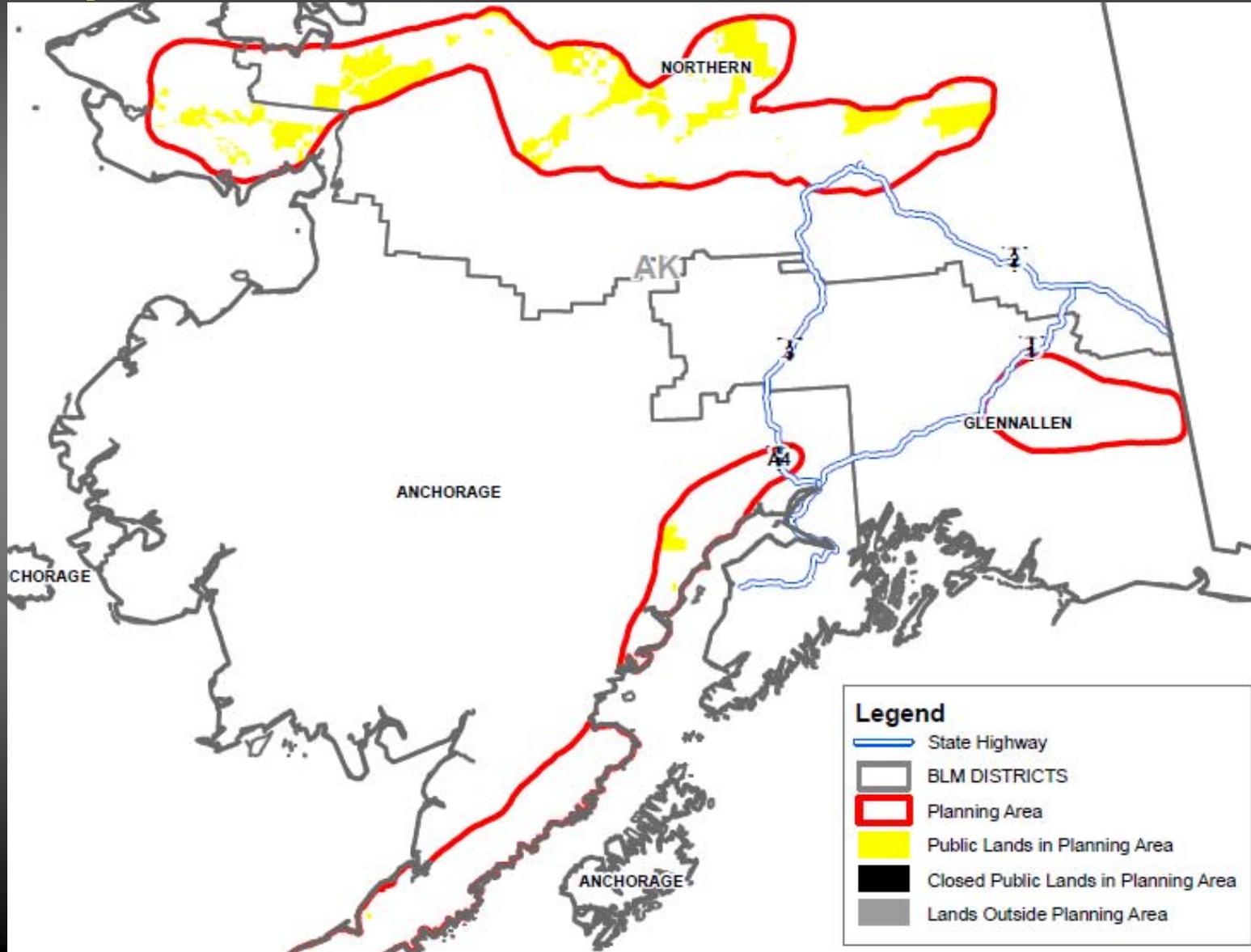
- Identifying lands available for leasing
- Defining stipulations
- Providing BMPs

# BLM Plan Amendments

Plans that are currently under revision will need to include the stipulations and BMPs identified in the PEIS along with any known site-specific stipulations that pertain to the plan's decision area.

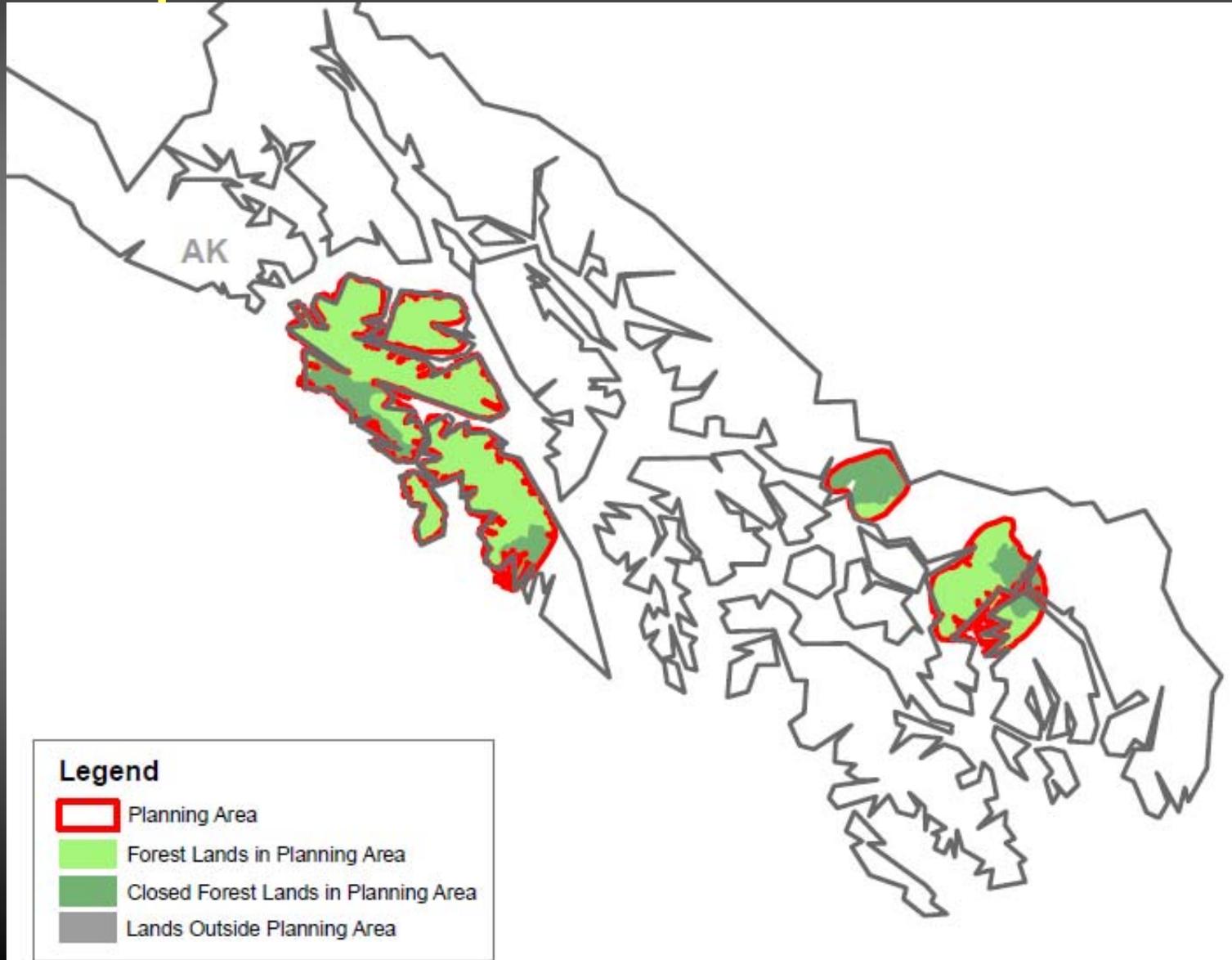
# Alaska

## Open and Closed Public Lands



# Alaska

## Open and Closed NFS Lands



### Legend

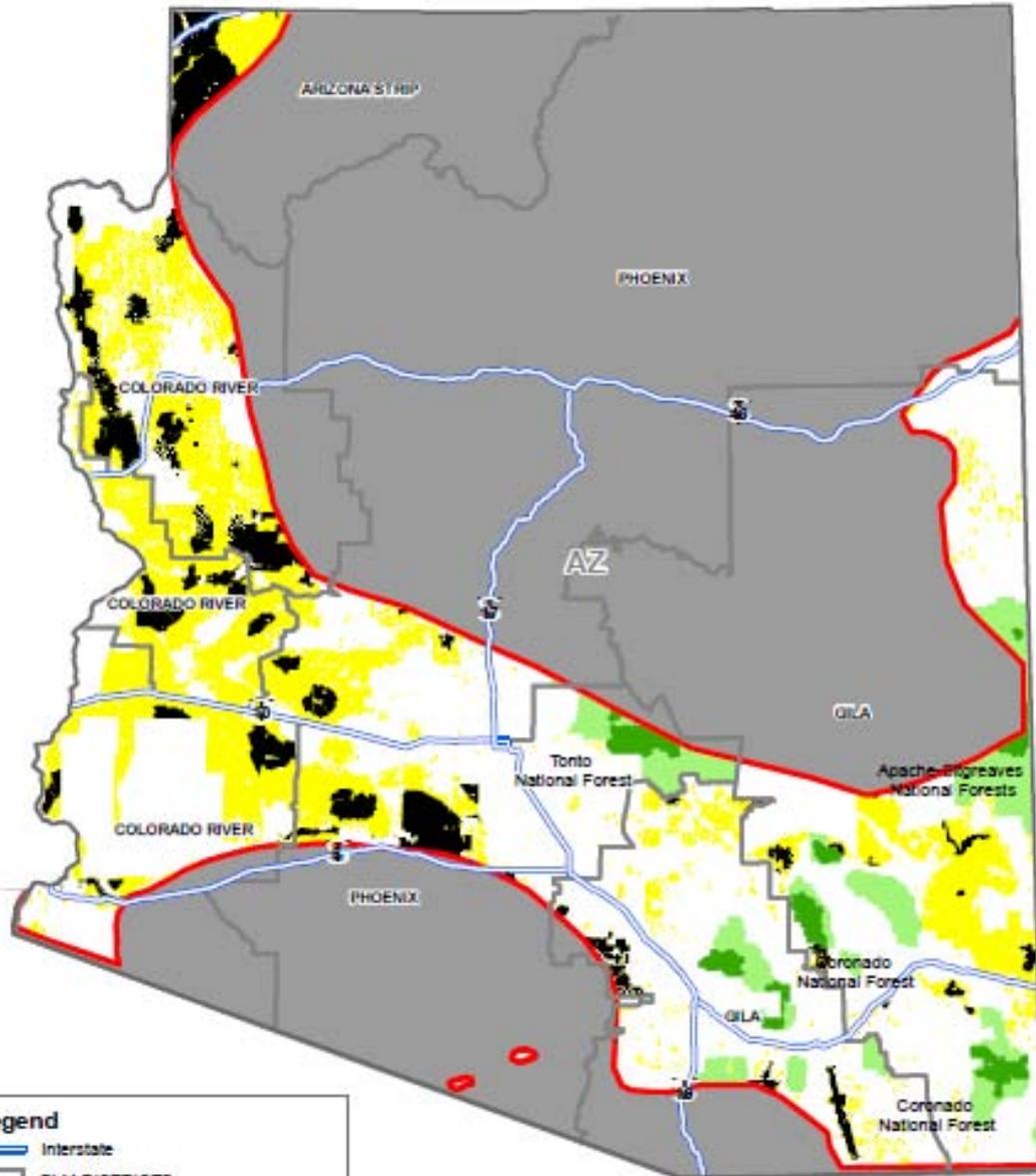
-  Planning Area
-  Forest Lands in Planning Area
-  Closed Forest Lands in Planning Area
-  Lands Outside Planning Area

# Alaska

## BLM Plan Amendments

District or Field Office <sup>†</sup>	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
				2015	2025
Anchorage	Ring of Fire RMP	992,786	-- <sup>1</sup>	20	150
	Kobuk- Seward RMP				
Fairbanks	Central Yukon RMP	4,867,749	1,444,835 <sup>1</sup>	--	--
	Kobuk- Seward RMP				

# Arizona Open and Closed Lands



# Arizona BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Arizona Strip	Arizona Strip RMP	626,291	328,799	--	--
Hassayampa	Lower Gila North MFP* Phoenix RMP*	701,670	88,515	--	--
Kingman	Kingman RMP	2,219,911	373,299	--	--
Lake Havasu	Lake Havasu RMP	1,352,613	178,621	--	--

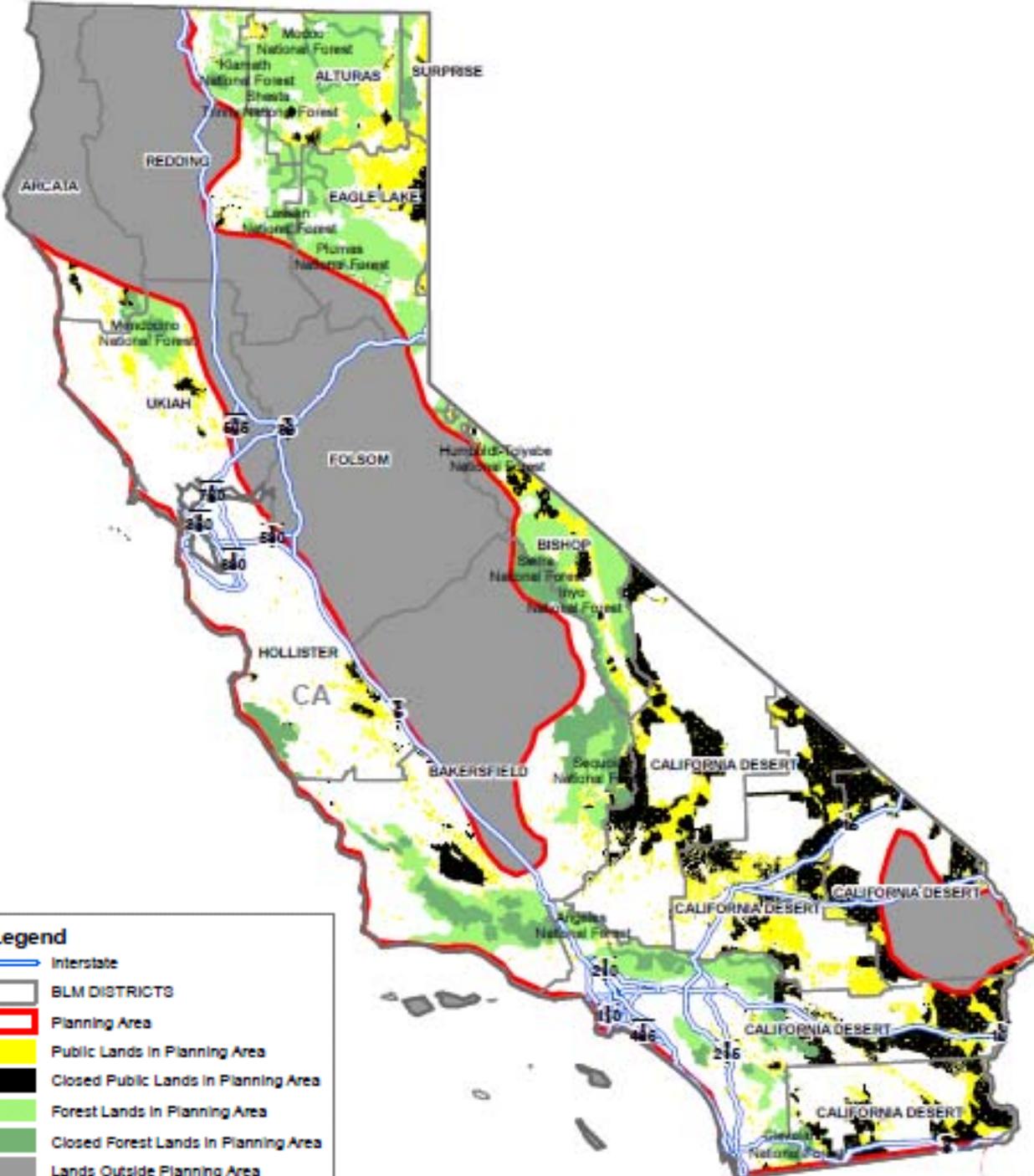
# Arizona

## BLM Plan Amendments

*continued*



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Lower Sonoran	Phoenix RMP* Lower Gila South RMP*	860,793	344,285		
Safford	Safford RMP	1,270,987	90,893	20	50
Tucson	Safford RMP Phoenix RMP*	520,812	172,746	--	--
Yuma	Lower Gila South RMP* Yuma RMP*	1,289,013	186,006	--	--



# California Open and Closed Lands

# California BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Alturas	Alturas RMP Cedar Creek/Tule Mountain Integrated RMP*	502,188	89,093	480	490
Arcata	Arcata RMP Headwaters RMP	83,436	56,341	--	--
Bakersfield	Caliente RMP* Hollister RMP	560,591	330,725	--	--
Barstow	West Mojave RMP	2,892,852	1,488,168	--	--

# California

## BLM Plan Amendments

### *Continued*



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Bishop	Bishop RMP	747,823	284,029	120	240
Eagle Lake	Eagle Lake RMP	1,041,655	407,959	10	10
El Centro	E. San Diego County RMP	1,236,466	853,632	1,355	3,063
Hollister	S. Diablo Mountain Range and Central Coast RMP	273,622	29,240	--	--

# California

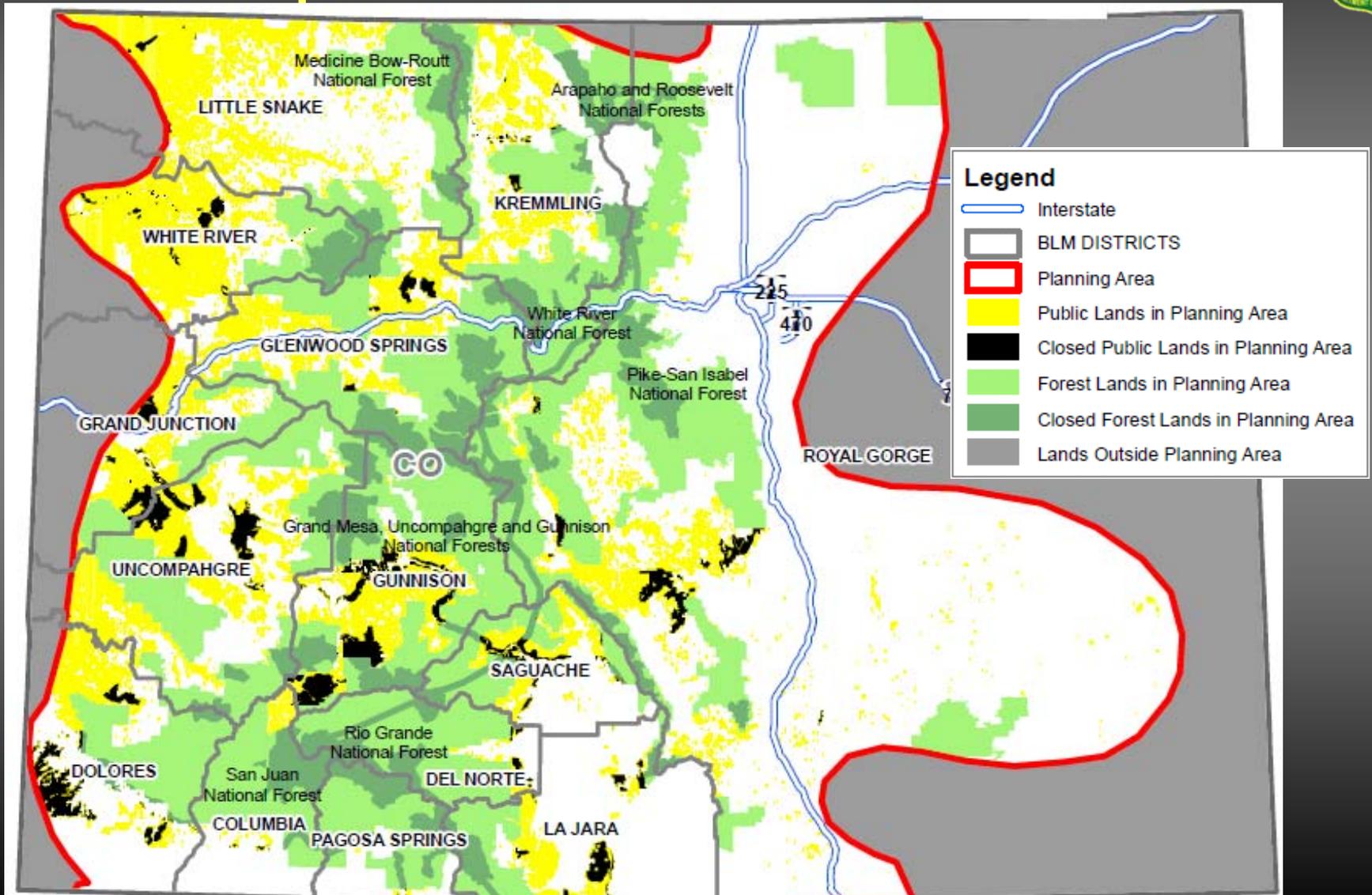
## BLM Plan Amendments

### *Continued*

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Palm Springs-S. Coast	South Coast RMP*	1,555,386	1,017,252	--	--
Redding	Redding RMP	51,209	2,954	0	50
Surprise	Surprise RMP	1,430,221	397,653	30	60

# Colorado

## Open and Closed Lands



**Legend**

- Interstate
- BLM DISTRICTS
- Planning Area
- Public Lands in Planning Area
- Closed Public Lands in Planning Area
- Forest Lands in Planning Area
- Closed Forest Lands in Planning Area
- Lands Outside Planning Area

# Colorado

## BLM Plan Amendments



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Columbine	San Juan/San Miguel RMP* Glenwood Springs RMP*	63,001	2,795	--	--
Delores	San Juan/San Miguel RMP*	427,661	143,103	--	--
Glenwood Springs	Glenwood Springs RMP*	567,172	27,717	--	--
Grand Junction	Grand Junction RMP*	420,016	66,622	--	--
Gunnison	Gunnison RMP	614,233	164,408	--	--

# Colorado

## BLM Plan Amendments

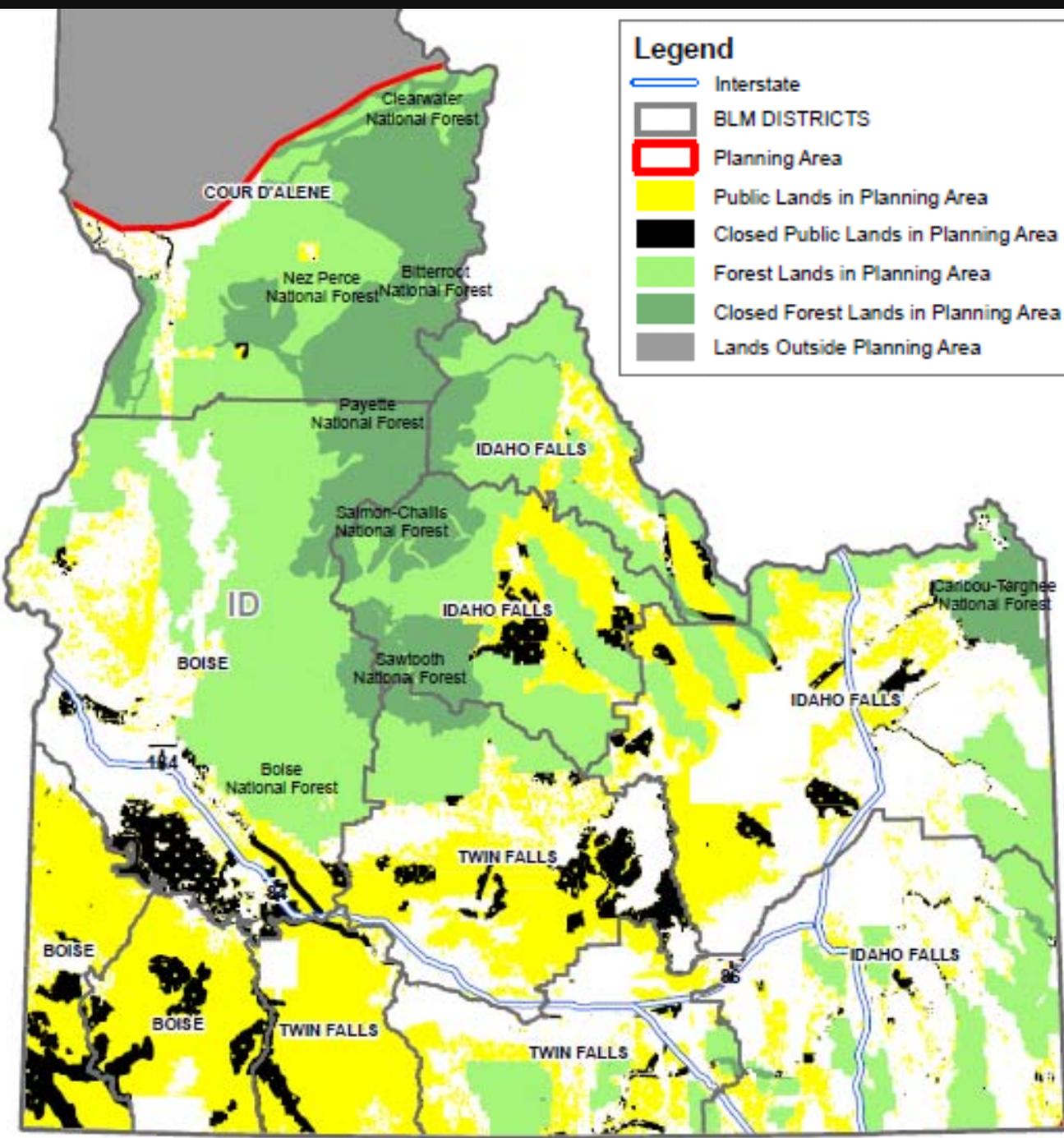
### *Continued*



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Kremmling	Kremmling RMP*	367,370	13,807	--	--
Little Snake	Little Snake RMP*	962,205	4,457	--	--
Pagosa Springs	San Juan/San Miguel RMP*	5,777	699	--	--
Royal Gorge	Northeast RMP Royal Gorge RMP	661,011	73,627	--	--
Uncompahgre	Uncompahgre Basin RMP*  San Juan/San Miguel RMP*	800,861	130,462	--	--
White River	White River RMP	884,343	22,415	--	--

Legend

-  Interstate
-  BLM DISTRICTS
-  Planning Area
-  Public Lands in Planning Area
-  Closed Public Lands in Planning Area
-  Forest Lands in Planning Area
-  Closed Forest Lands in Planning Area
-  Lands Outside Planning Area



# Idaho Open and Closed Lands

# Idaho

## BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Bruneau	Bruneau MFP	1,604,986	316,553	--	--
Four Rivers	Cascade RMP* Kuna MFP* Jarbidge RMP*	1,340,695	562,196	138	275
Burley	Cassia RMP Twin Falls MFP Monument RMP	849,597	70,471	263	425
Challis	Challis RMP	908,313	139,652	--	--
Cottonwood	Chief Joseph MFP*	90,128	13,963	--	--
Jarbidge	Jarbidge RMP*	1,565,165	131,547	113	225

# Idaho

## BLM Plan Amendments

### *Continued*



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Owyhee	Owyhee RMP	1,497,330	303,451	--	--
Pocatello	Malad MFP* Pocatello RMP*	554,115	44,554	100	200
Salmon	Lemhi RMP	520,764	60,464	10	20
Shoshone	Bennett Hills/ Timmerman Hills MFP Magic MFP Monument RMP Sun Valley MFP	1,904,389	428,425	113	225
Upper Snake	Big Desert MFP* Big Lost MFP* Little Lost-Birch MFP* Medicine Lodge RMP*	1,881,331	237,801	120	300

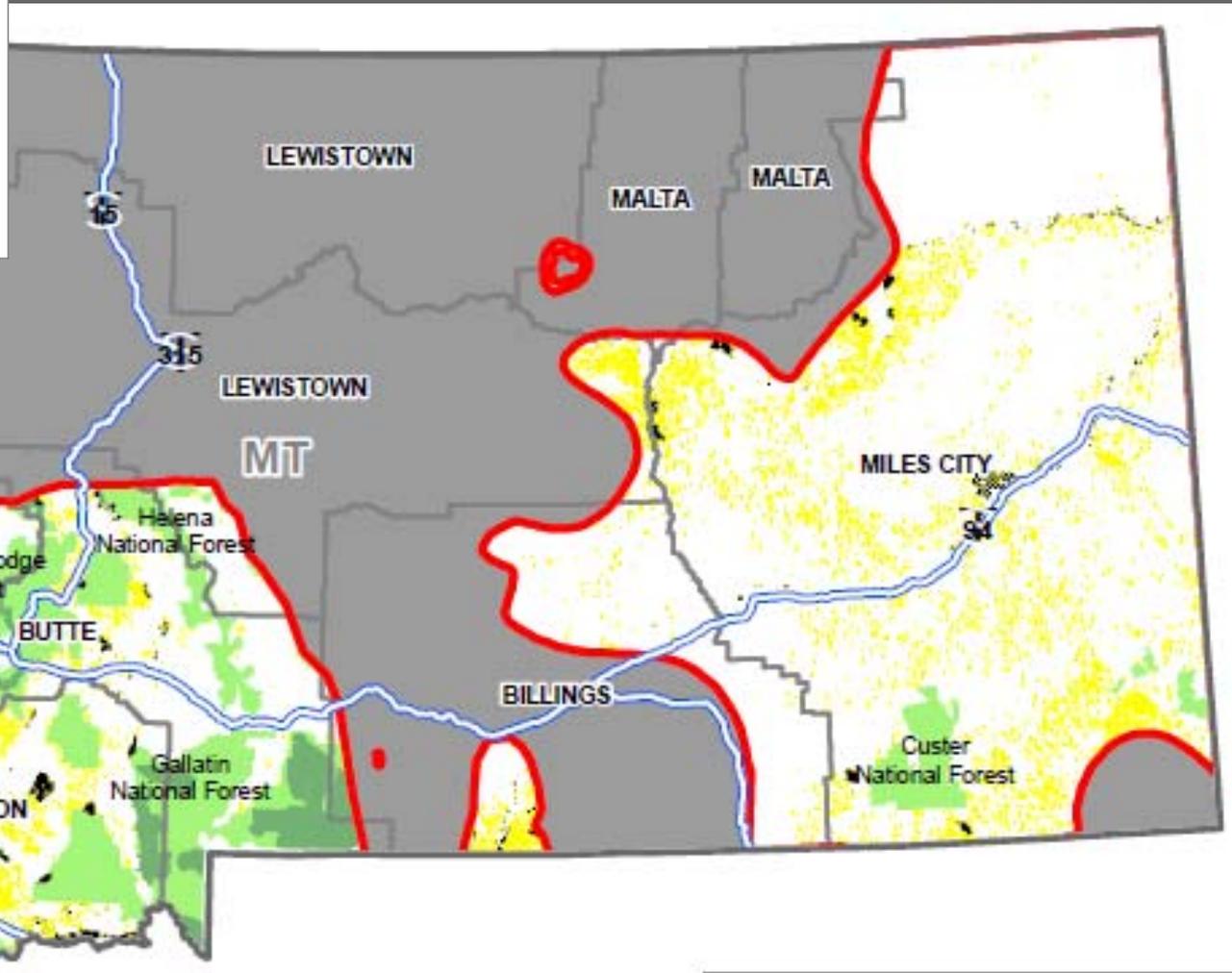
# Montana

## Open and Closed Lands



### Legend

- Interstate
- BLM DISTRICTS
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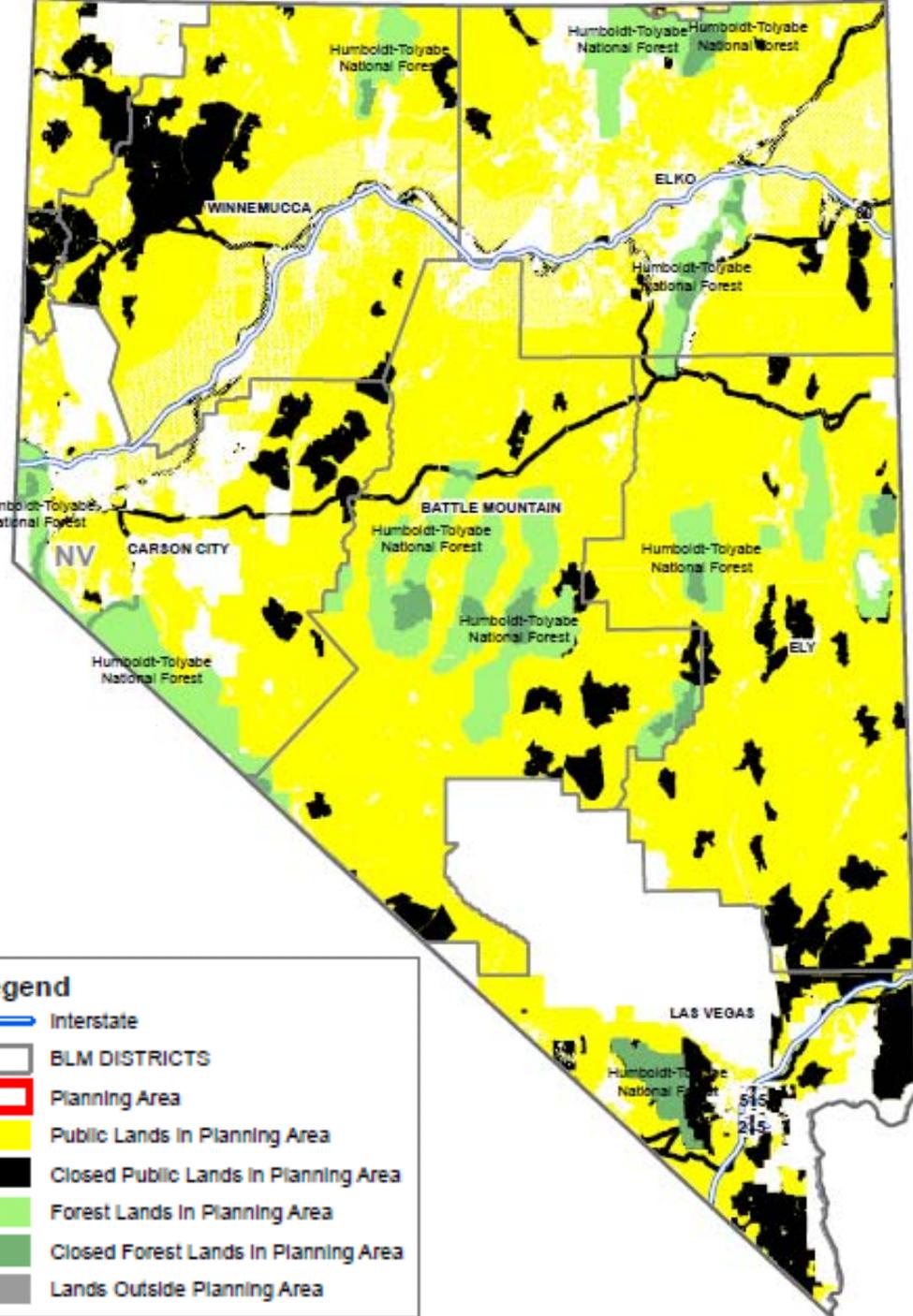


# Montana

## BLM Plan Amendments



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Billings	Billings Resource Area RMP*	149,410	6,768	--	--
Butte	North Headwaters RMP*	272,708	35,014	--	--
Dillon	Dillon RMP	910,199	165,583	--	--
Lewistown	Judith Valley Phillips RMP*	183,749	133	--	--
Malta	West HiLine RMP*	4,076	0	--	--
Miles City	Big Dry RMP* Powder River Resource Area RMP*	1,863,245	84,618	--	--
Missoula	Garnet Resource Area RMP	55,344	2,564	--	--



# Nevada Open and Closed Lands

# Nevada

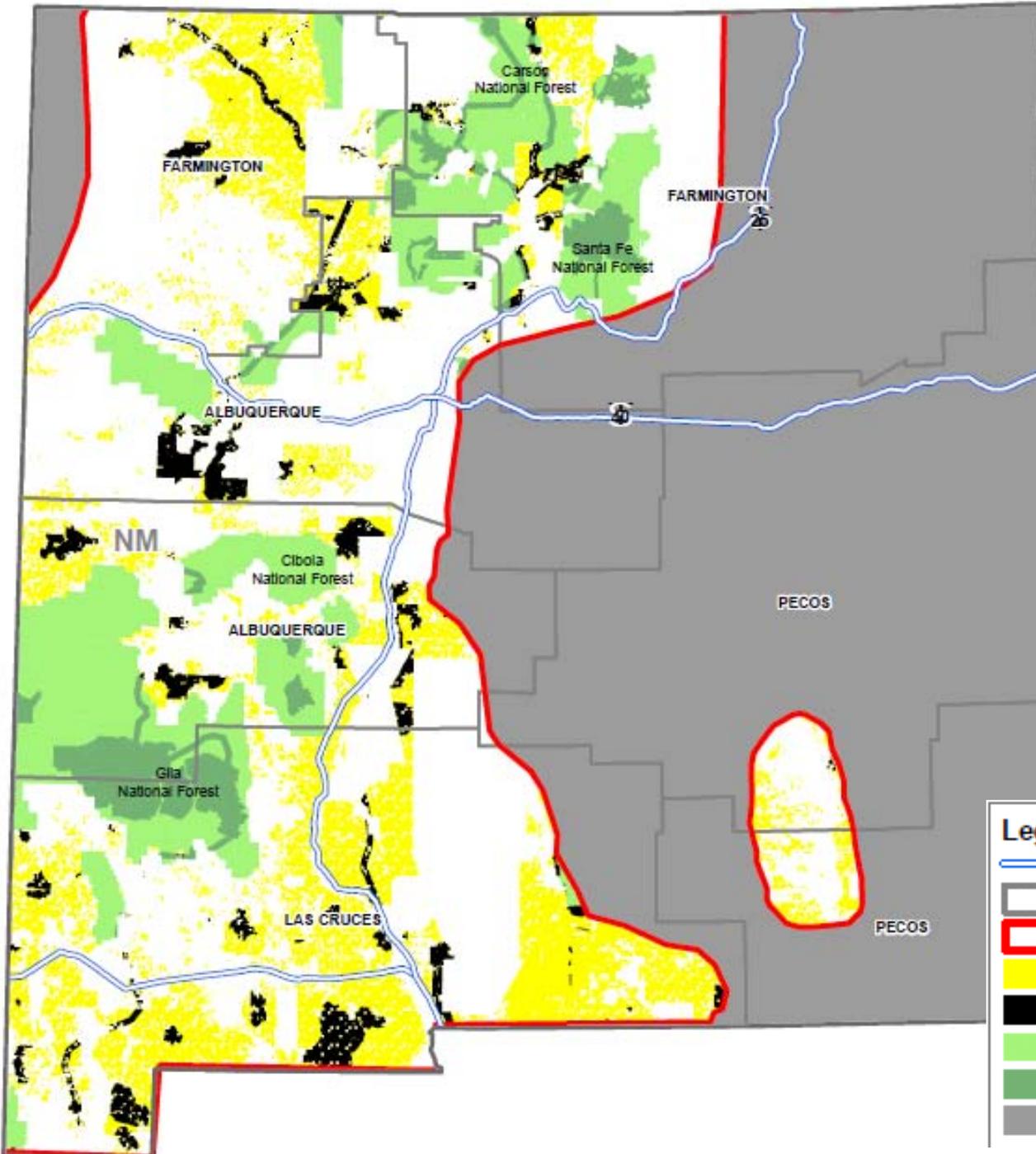
## BLM Plan Amendments



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Battle Mountain	Shoshone-Eureka RMP	10,419,122	933,196	306	586
	Tonopah RMP				
Carson City	Carson City Consolidated RMP	4,988,877	677,456	536	971
Elko	Elko RMP	7,505,351	536,717	238	488
	Wells RMP				
Las Vegas	Las Vegas RMP	3,426,674	709,582	--	--
Winnemucca	Paradise-Denio MFP*	8,232,520	546,952	405	781
	Sonoma-Gerlach MFP*				



# New Mexico Open and Closed Lands



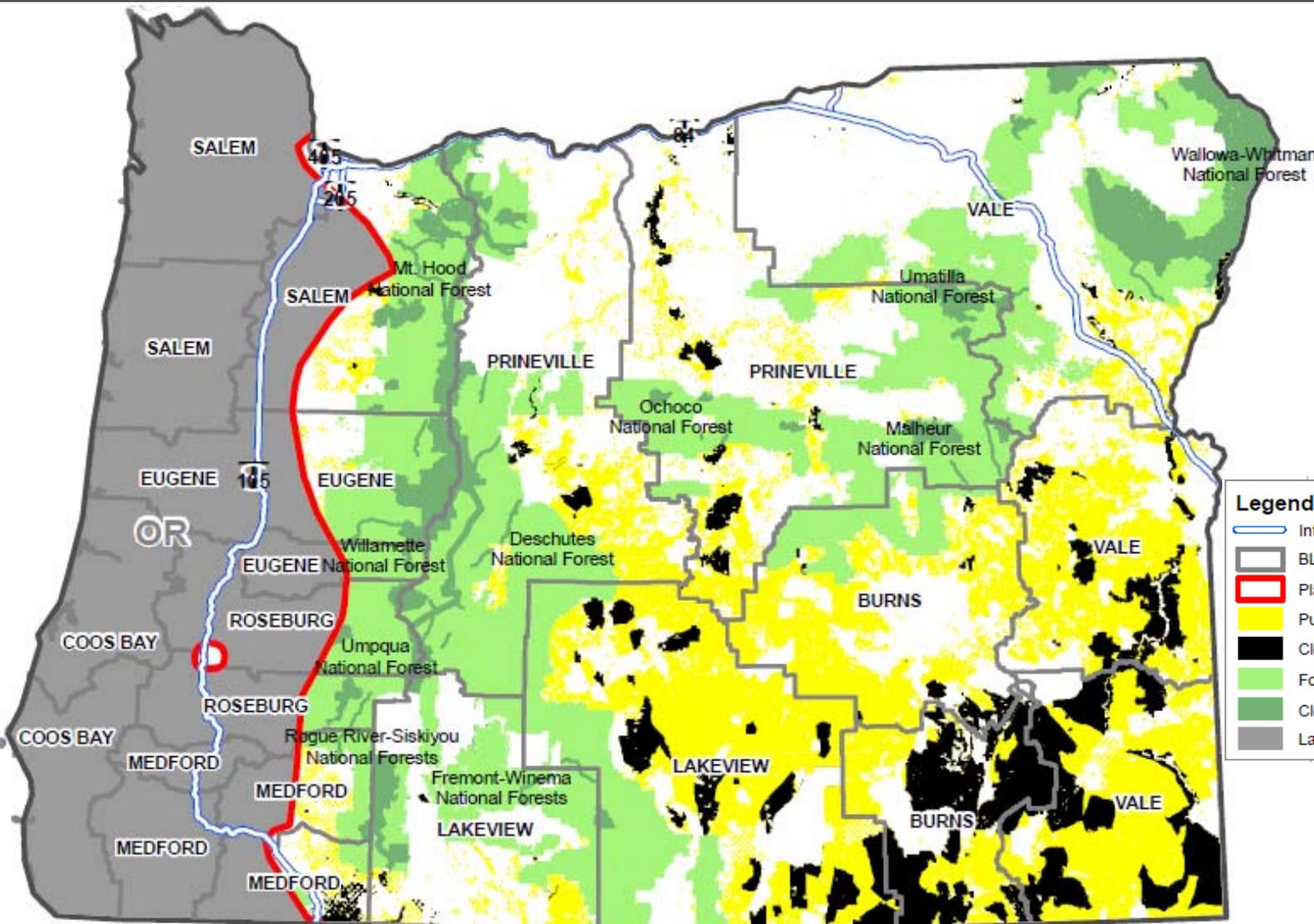
**Legend**

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# New Mexico BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Carlsbad	Carlsbad RMP	186,375	0	--	--
Farmington	Farmington RMP	1,421,241	113,860	--	--
Las Cruces	MacGregor Range RMP Mimbres RMP* White Sands RMP	5,000,939	523,188	80	170
Rio Puerco	Rio Puerco RMP*	978,622	362,255	--	--
Roswell	Roswell RMP	119,750	0	--	--
Socorro	Socorro RMP*	1,267,174	299,915	--	--
Taos	Taos RMP*	533,041	144,066	--	--

# Oregon Open and Closed Lands



**Legend**

- Interstate
- BLM DISTRICTS
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- Closed Forest Lands in Planning Area
- Lands Outside Planning Area

# Oregon

## BLM Plan Amendments

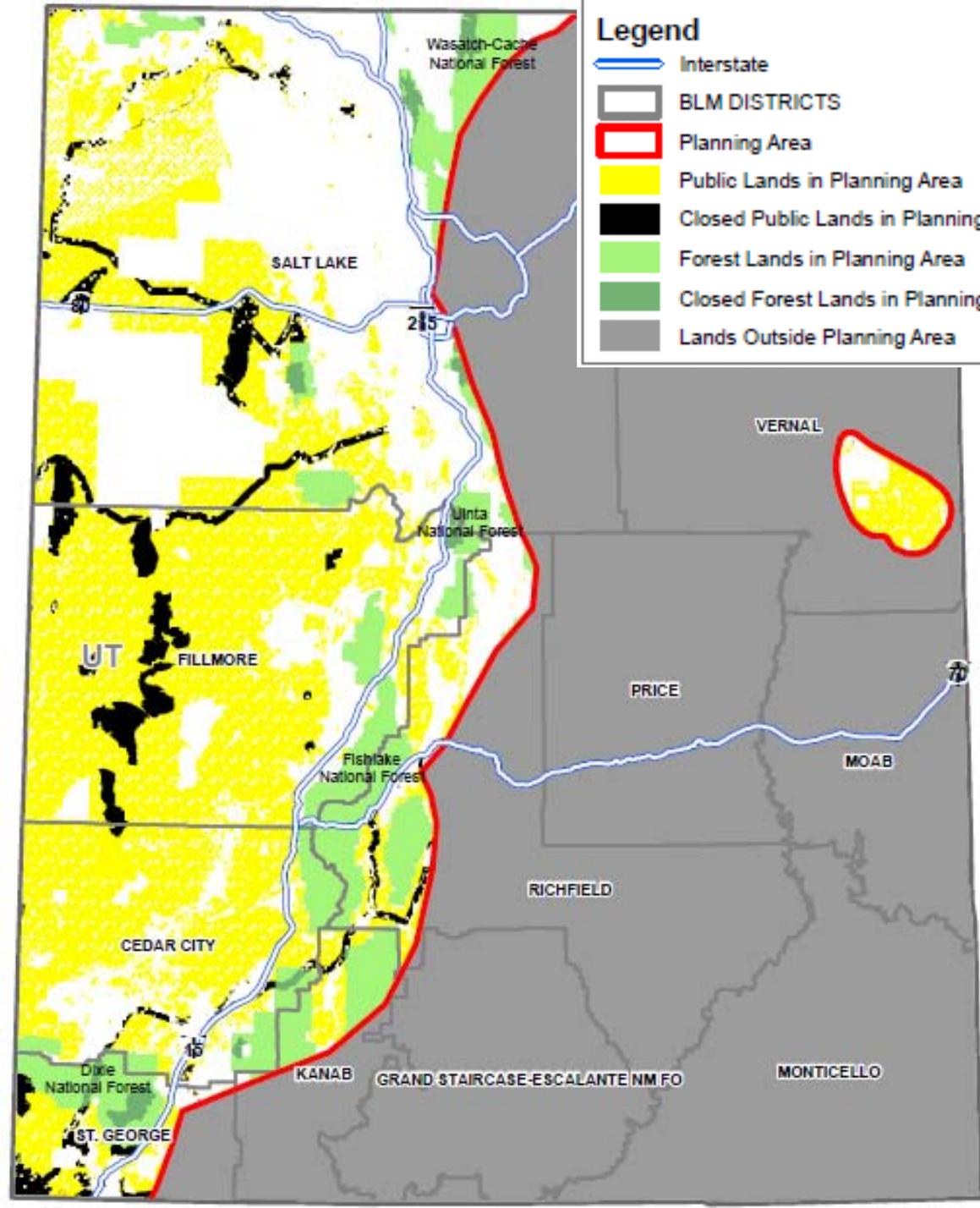


District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Burns	Three Rivers RMP	3,268,606	1,055,056	0	50
Eugene	Eugene District RMP*	0	0	--	--
Medford	Medford RMP*	209,513	52,764	--	--
Prineville	Two Rivers RMP*			295	1,040
	Brothers/LaPine RMP*				
	John Day RMP*				
	John Day River MP*				
	Lower Deschutes RMP	1,652,041	295,084		
Roseburg	Roseburg RMP*	0	0	--	--
Salem	Salem RMP*	138,070	19,008	--	--

**Legend**

-  Interstate
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# Utah Open and Closed Lands



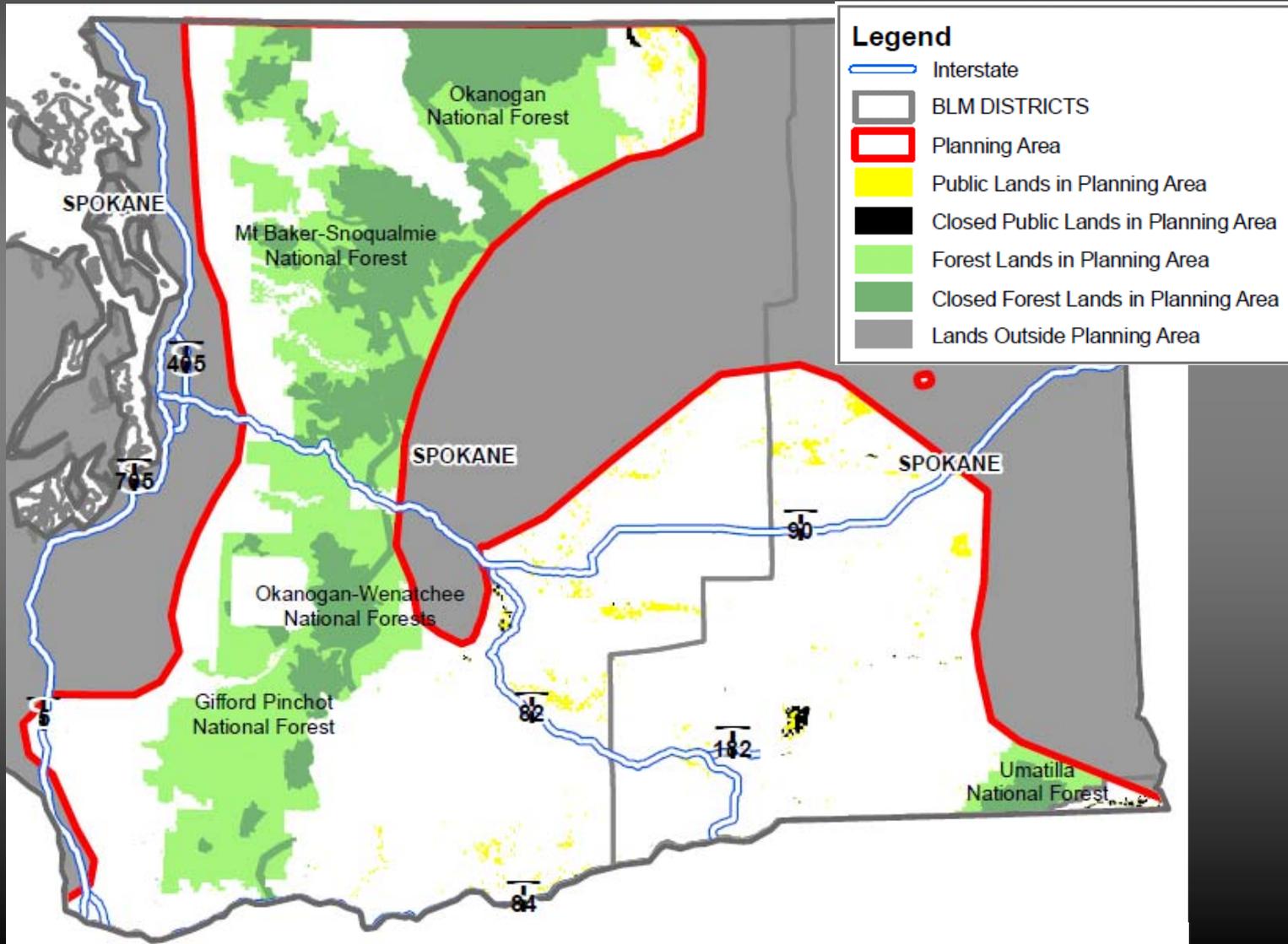
# Utah

## BLM Plan Amendments



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Cedar City	Cedar Beaver Garfield Antimony RMP Pinyon MFP	2,102,417	23,739	160	370
Kanab	Paria MFP* Vermilion MFP* Zion MFP*	145,417	15,519	--	--
Richfield	Mountain Valley MFP* Henry Mountain MFP* Parker Mountain MFP*	400,725	49,649	20	50
St. George	St. George (formerly Dixie) RMP	468,886	63,378	--	--
Vernal	Book Cliffs MFP* Diamond Mountain RMP*	272,862	0	--	--

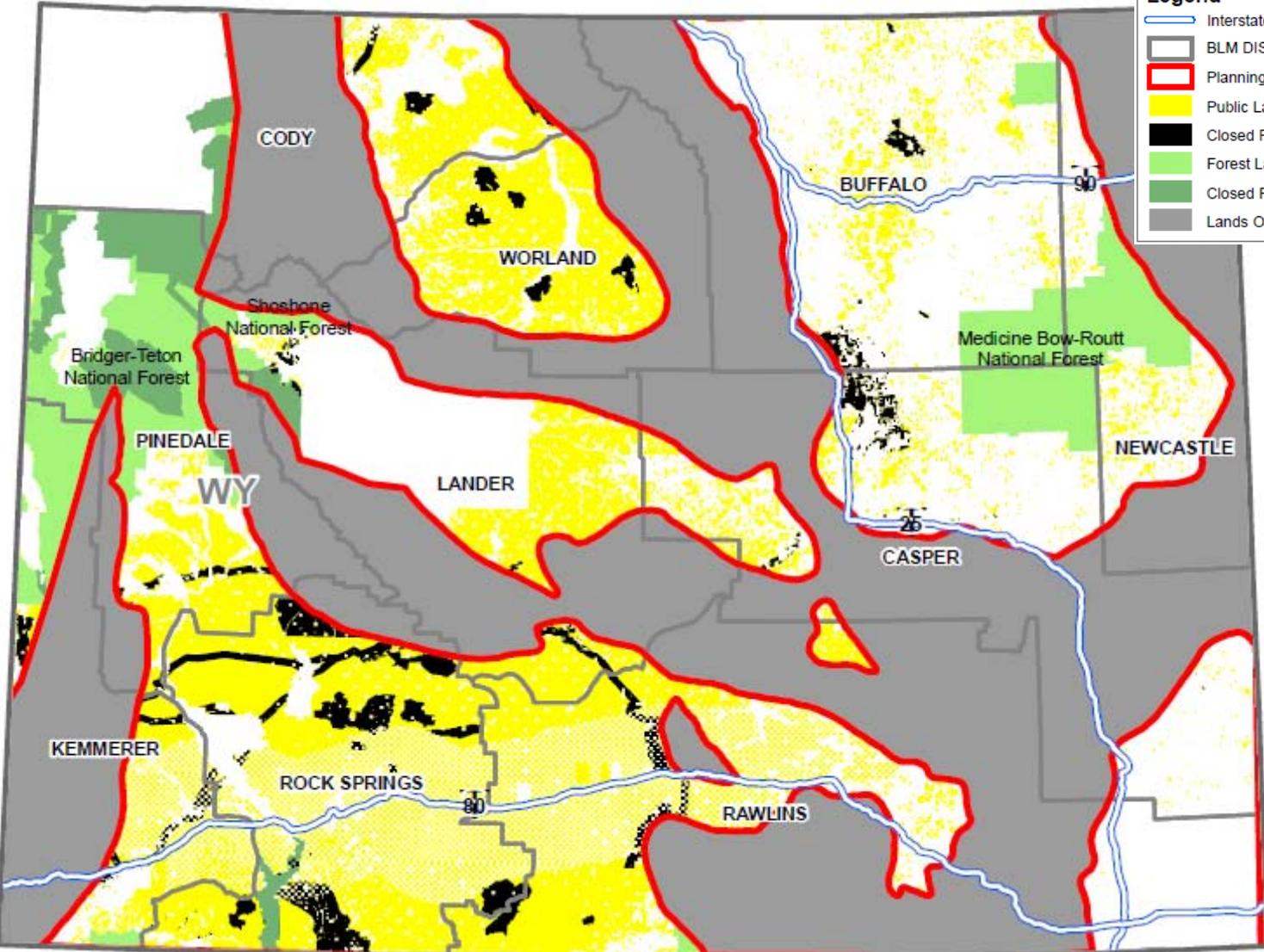
# Washington Open and Closed Lands



# Washington BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW
Spokane	Spokane RMP	251,096	14,415	50 600

# Wyoming Open and Closed Lands



# Wyoming BLM Plan Amendments

District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Buffalo	Buffalo RMP	571,425	12,301	--	--
Casper	Platte River RMP*	517,576	9,160	--	--
Cody	Big Horn Basin RMP	722,834	39,317	--	--
	Cody RMP*				
Kemmerer	Kemmerer RMP*	693,806	83,508	--	--
Lander	Lander RMP*	1,201,201	32,423	--	--

# Wyoming BLM Plan Amendments *Continued*



District or Field Office	Land Use Plan(s)	Acres Open	Acres Closed	Projected MW	
Newcastle	Newcastle RMP	132,922	0	--	--
Pinedale	Pinedale RMP*	704,239	39,119	--	--
	Snake River RMP				
Rawlins	Great Divide RMP*	2,308,513	72,173	--	--
	Green River RMP*				
Rock Springs	Green River RMP*	3,356,775	338,172	--	--
Worland	Grass Creek RMP*	1,537,942	91,803	--	--
	Waskakie RMP*				

# Tiered Analysis in the PEIS

It is the intent of the BLM, that upon receipt of future nominations or applications for a lease, affected BLM offices would be able to conduct a Determination of NEPA Adequacy (DNA) evaluation by tiering to the PEIS to make lease sale decisions without further NEPA unless new information or special circumstances require additional environmental evaluation.

# Tiering

Tiering refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analysis (42 CFR 1508.28)

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (42 CFR 1502.20)

# Tiered Analysis in the PEIS

- PEIS (Volume I) provided foundation for tiering 19 lease applications
- Applications evaluated in Volume II of the PEIS
- Volume II serves as a template if BLM or FS need to conduct supplemental analysis for specific resources or issues in a given area

# Pending Lease Applications



*(The EP Act mandated that 90% of pending lease applications submitted prior to 1/1/05 be cleared by August 2010)*

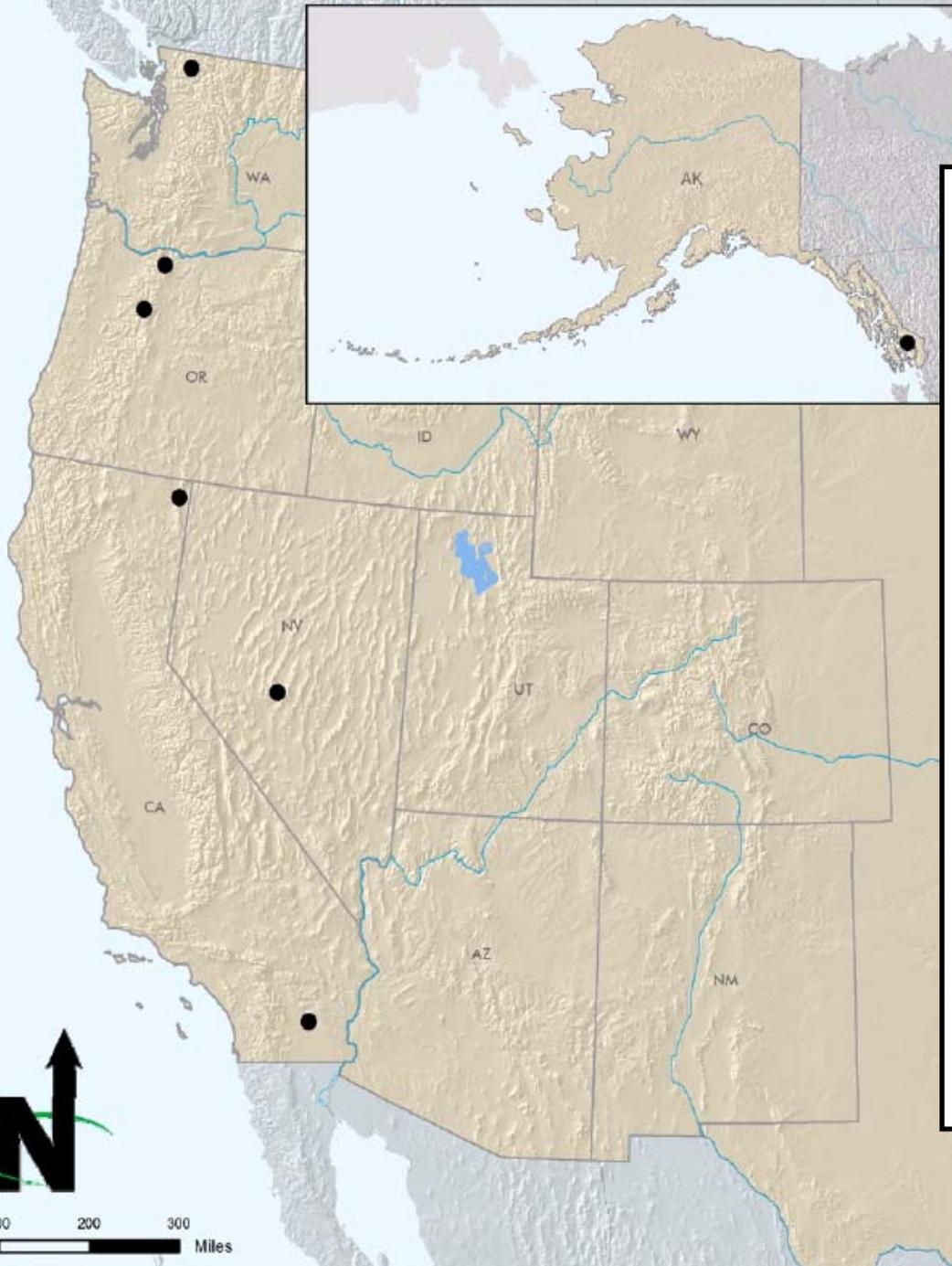
As of Jan. 1, 2005: 194 lease applications were pending

– 134 BLM and 60 FS

A rigorous vetting process of pending lease applications was conducted

– As of June 5, 2008, 34 still pending and cleared:

- 19 pending applications in 7 groups are assessed in the PEIS (16 FS, 2 BLM, 1 joint)
- 15 pending applications are being handled in separate decision processes by BLM and FS



**Pending Lease Applications (Prior to January 1, 2005)**

Group	State	BLM or FS Office	Serial Number	Acres
1	AK	Tongass NF	AKAA 084543	2560
1	AK	Tongass NF	AKAA 084544	2560
1	AK	Tongass NF	AKAA 084545	2560
2	CA	El Centro FO	CACA 046142	2161
2	CA	El Centro FO	CACA 043965	1160
3	CA	Modoc NF	CACA 042989	480
3	CA	Modoc NF	CACA 043744	2560
3	CA	Modoc NF	CACA 043745	2560
4	NV	Battle Mtn FO and Toiyabe NF	NVN 074289	605
5	OR	Mount Hood NF	OROR 017049	1538
5	OR	Mount Hood NF	OROR 017051	2480
5	OR	Mount Hood NF	OROR 017052	2480
5	OR	Mount Hood NF	OROR 017053	1376
5	OR	Mount Hood NF	OROR 017327	1294
6	OR	Willamette NF	OROR 054587	1115
7	WA	Mt Baker NF	WAOR 056025	2403
7	WA	Mt Baker NF	WAOR 056027	2560
7	WA	Mt Baker NF	WAOR 056028	2544
7	WA	Mt Baker NF	WAOR 056029	1941

# Tiered Analysis in the PEIS

- Volume II of the PEIS contains supplemental environmental analysis of the 19 lease areas
- BLM and FS will issue separate RODs for each lease cluster
- Serves as a template for future tiering analysis to the PEIS if needed

# Consultation

*(under Section 7 of the Endangered Species Act  
and Section 106 of the National Historic  
Preservation Act)*



Prior to making lease decisions on federal lands, the BLM would conduct additional environmental review in order to comply with other laws, such as the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA).

# Coordination with State Agencies

- Throughout the PEIS, the BLM and FS coordinated with state and local agencies. The input from state agencies ensured consistency with state renewable energy policies and goals.
- Communicate! It is important to keep the federal, state, local dialogue going throughout the four phases of development.

# Consultation with Tribes



- Both the BLM and FS conducted comprehensive consultation with more than 450 tribes in the 12 western states
- Tribal officials, members, or staff attended several of the scoping sessions and public hearings in the 12 western states

# Consultation with Tribes *(Continued)*

- Dialogue and communication were conducted throughout the process with several tribes
- Consultation will continue throughout implementation

# Benefits of the Geothermal PEIS



- Issue decisions on pending lease applications
- Enable future leasing decisions
- Ensure environmentally sound renewable energy development
- Ensure consistency and transparency in the leasing process
- Minimize delays
- Reduce costs



# For More Information

[www.blm.gov/geothermal\\_eis](http://www.blm.gov/geothermal_eis)



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